# "Brave New World" – What Contribution Can the Cosmetics Industry Make?

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**The SEPAWA® Specialist Group Cosmetic Applications and Technologies (CAT)** organized a lecture event which took place on 9th and 10th May at the Maritim Hotel Würzburg, under the theme "Brave New World" – What Contribution Can the Cosmetics Industry Make?

As usual, the event began with an accompanying program the day before. A sunny city tour provided interesting insights into the history of Würzburg and the opportunity to see its beautiful buildings. This was followed by a visit to the Kneipp store and the mandatory glass of wine in the sun set on the "Alte Mainbrücke". The day ended successfully with a shared dinner at the "Alte Mainmühle", which provided a wonderful opportunity for attendees to engage in conversations.

The main event on the following day focused on the challenges currently facing the cosmetics industry, with a particular emphasis on sustainability and factors that have the potential to positively influence the industry. These included energy optimization in cosmetics production and the implementation of effective raw material recycling strategies.

**Sarah Frech** from BEAUTYSTREAMS opened the lecture event with her presentation on Intersectional Beauty. Intersectional Beauty is based on the concept that each consumer has a variety of different needs that intersect with one another. This leads to the challenge that there are almost as many consumer goals as there are individuals. Today's consumers expect a more personalized approach, taking into account the many facets of cultural, geographical, spiritual, social, and genetic influences. In this context, there are market opportunities for the development of products that combine modern science and traditional medicine or consider lifestyle, environment, as well as skin and hair types. Moreover, products can be tailored specifically to address the needs of older age groups or unique requirements.

**Keynote speaker Anne Fierhauser** provided a fascinating insight into the world of face reading. She captivated and inspired the audience with new perspectives derived from ancient teachings. Her presentation provided us with an insight into her expertise and her unique approach to face reading. Based on individual facial features, Anne Fierhauser creates in-depth personality analyses, identifies strengths and potentials, and helps corporations and companies achieve sustainable success.

In a tandem presentation, **Isabel Simon** from **Kneipp GmbH** and **Prof. Dr. Ralf Stürmer** from **Psyrecon GmbH** presented interesting findings on the aromacological product performance and psychophysiological effectiveness of a citrus-scented shower product based on essential oils. Skin cleansing can have a psychophysiological dimension of effectiveness beyond the mere removal of dirt, especially due to the aromacological effects on emotions and well-being. To investigate these psychophysiological effects of a citrus-scented shower product, Simon and Stürmer developed a study design to capture the aromacological effects under "realistic" conditions using Objective Emotional Assessments (OEA). This involves the simultaneous measurement of electrodermal activity, electrocardiogram, electroencephalogram and electromyogram. The results showed that the product was rated by the participants as 'invigorating', 'refreshing', 'stimulating', 'activating' and 'mood enhancing'. The activating and stimulating effects of the citrus-scented shower gel were also confirmed by the OEA measurements.

**Dr. Kerstin Effers** from the **Consumer Center** (Verbraucherzentrale) gave a presentation on more sustainable cosmetics, consumer protection, and environmental protection. The cosmetics industry can play an important role in several of the United Nations' sustainability goals, such as promoting sustainable consumption and production, implementing climate change mitigation measures, and preserving and protecting marine life. The trend towards more sustainable, packaging-free cosmetics is also evident in the growing popularity of solid cosmetic products. The solid alternatives for shampoos, shaving soaps, deodorants, body butters and more have now made their way from zero-waste stores to drugstores and supermarkets. Because of their solid form, they require less packaging material, are more energy efficient to produce and have a lower impact on wastewater resources. The Consumer Centre's environmental advice service regularly runs cam-

paigns to educate consumers about environmental protection and waste reduction in this area.

**Dr. Andreas Reinhart** (REINHART Rechtsanwälte Partnerschaft mbB) gave a presentation titled "*Environmental Advertising for Cosmetic Products – Legal Boundaries*" in which he addressed the current developments at the EU level. The European Commission has been dealing with the issue of greenwashing, which refers to misleading advertising in the environmental sector. The current legal framework includes Article 20 of the EU Cosmetics Regulation, which sets out a general prohibition on misleading advertising for cosmetics, as well as the Cosmetic Claims Regulation 655/2013, which only sets out general criteria. In addition, there is the EU Ecolabel, which has been extended to 'leave-on' products and provides an incentive for industry to work more with it, provided that specific criteria such as biodegradability and environmentally friendly packaging are met. However, labels such as 'carbon neutral' or '$CO_2$ neutral' are currently much more common in the market. Consumers are often unaware that part of the carbon footprint is offset through compensation or the purchase of carbon credits. Considering this issue, the European Commission proposes to amend Directives 2005/29/EC and 2011/83/EU


Lecture room, Maritim Hotel in Würzburg

to prohibit opaque and unreliable sustainability seals or information tools. It is proposed to include this in Annex 1 of the Directive and to add a blacklist of such bans. In addition, at the end of March, the draft Green Claims Directive was presented, which complements the EU Commission's draft directive amending the UCP Directive.

**Judith Fiedler** demonstrated in her presentation "*Unlocking the Potential of Energy Optimization in Cosmetic Production*" how these climate goals can be implemented in cosmetic production. The cosmetics industry consumes significant amounts of energy, and the production of cosmetic emulsions contributes significantly to this consumption. Energy optimization starts with the development process of cosmetic products. By choosing energy-efficient ingredients, implementing environmentally friendly production methods and using suitable testing methods, the energy demand to produce cosmetic emulsions can be reduced. It is important to generate more knowledge about the fat phase, such as the melting point and solidification point. Conscious consideration should be given to the choice of raw materials and how volume proportions can be optimized. In particular, the water phase has an unfavorable energy profile during heating and cooling.

**Marc Cöslin** from **ProXES** built on the topic of energy saving in his presentation "*Energy Saving with Natural, Cold-Processed Emulsions*".

In this context, he presented various manufacturing methods for emulsions using vacuum process systems and emphasized the advantages of cold processing, to reduce energy costs and $CO_2$ emissions. The technological implementation of cold processing not only offers ecological benefits but also enables efficient utilization of time resources that can be allocated to other production approaches. To illustrate the differences between hot and cold processing, Cöslin presented an example. It became evident that hot processing consumed 87 kWh of energy and took 106 minutes, whereas cold processing only required 6 kWh of energy and 36 minutes. These figures highlight the significant potential for savings associated with cold processing compared to conventional hot processing.

The trend is increasingly moving towards the cold processing of products as manufacturers are recognizing that this efficient method allows them to reduce energy costs, decrease $CO_2$ emissions, and meet the rising consumer demands.

## Election SEPAWA® e.V. Specialist Group Cosmetic Applications and Technologies (CAT)

On June 16th, the board election of the SEPAWA® e.V. Specialist Group Cosmetic Applications and Technologies (CAT) took place, led by **Holger Plate**.

**Astrid Wulfinghoff,** a long-time member who led the Specialist Group as 1st Chair for six years. Her dedication and leadership significantly contributed to the success of CAT.

The members of the previous board were discharged, and the newly elected board, unanimously chosen, consists of the following individuals: **Dr. Kristin Neßbach**, the former secretary, has been promoted to the position of 1st **Chairwoman,** replacing **Astrid Wulfinghoff**. **Sandra Iris Spiegelberger** and **Dr. Leslie Schlüter** remain in their positions as 2nd **Chairwoman** and **Treasurer,** respectively. The new **Secretary** is **Christian Schmidt**.


**CAT special group members (left to right):** Nicola Kricsfalussy, Sopna Thill, Leslie Schlüter, Carolin Hein, Astrid Wulfinghoff, Ralf Kuschnereit, Sandra Spiegelberger, Christian Schmidt, Alina Maier, absent: Kristin Nessbach

The CAT Specialist Group would like to take this opportunity to express its sincere gratitude to

Carbon dioxide is generally considered a pollutant and plays a significant role in climate warming. In this context, new possibilities arise for fermentation. With the help of an innovative biotechnological process, valuable raw materials can be obtained from $CO_2$. This technology, also known as $CO_2$ recycling, opens a new chapter in the circular economy. **Bernd Söllner** from **Mibelle** highlighted in his presentation the potential of this technology. Through fermentation and biocatalysis, bacteria can be cultivated in bioreactors to capture $CO_2$ from the air and convert it into valuable products. This innovative approach allows for the integration of $CO_2$ into a cycle and ensures sustainable utilization. In addition to the production of basic materials such as ethanol, $CO_2$ recycling also offers new possibilities in the field of packaging through the production of PET (polyethylene terephthalate). By considering $CO_2$ as a valuable resource, $CO_2$ recycling can help reduce the negative impacts on the climate and promote a sustainable cycle. The development and application of this technology opens new perspectives for a future-oriented and resource-efficient economy. Thus, $CO_2$ recycling represents an important step towards a sustainable and climate-friendly future.

The presentation by **Willi Moor** from **Döhler** titled "*From Waste to Valuestream*" addresses the various by-products and waste streams in the food industry, as well as the technologies and measures for extracting new raw materials for the cosmetics industry through juice production.

Through targeted processing and treatment technologies, these by-products are transformed into valuable raw materials. The focus is on a complete plant upcycling process.

For example, plant-based color pigments, hydrolates, milled fibers, or flavored water are produced, which are used in different applications.

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